
A New Species of *Caesalpinia* (Leguminosae, Caesalpinioideae) from China

Shijin Li,^{1,2} Dianxiang Zhang,^{1,*} and Zhongyi Chen¹

¹South China Botanical Garden, The Chinese Academy of Sciences, Guangzhou 510650, China.*Corresponding author: dx-zhang@scib.ac.cn

²College of Life Sciences, South China Agriculture University, Guangzhou 510642, China. lisj@scbg.ac.cn

ABSTRACT. A new species of *Caesalpinia* (Leguminosae, Caesalpinioideae) from China is described and illustrated as *Caesalpinia yunnanensis* S. J. Li, D. X. Zhang & Z. Y. Chen. The new taxon is known only from the type locality in Xishuangbanna, Yunnan, China, and resembles *C. crista* L., a species widely distributed in pantropical regions.

Key words: *Caesalpinia*, Caesalpinioideae, China, Fabaceae, Leguminosae, Yunnan.

Caesalpinia L. (Leguminosae, Caesalpinioideae), as traditionally circumscribed, includes 120 to 130 species with a pantropical distribution (Lewis, 1998; Vidal et al., 1980). There are 19 species recognized in China (Chen, 1988; Li et al., 2001). During a comprehensive taxonomic revision of the genus in China, a new species, *C. yunnanensis*, has been discovered. It shows morphological similarities to *C. crista* L., a species widely distributed in pantropical regions, although there are also substantial differences between them.

Caesalpinia yunnanensis S. J. Li, D. X. Zhang & Z. Y. Chen, sp. nov. TYPE: China: Yunnan: Xishuangbanna, 600 m, *T. P. Zhu (Zhu Tai-Ping) 139* (holotype, KUN). Figures 1, 2A, B.

Folia biparipinnata; laminae rugatae, ovato-lanceolatae vel oblongo-lanceolatae; legumina lobata, striis transversis vel longitudinalibus distinctis, non reticulatis prominulis; cocci 5.0–7.0 × 2.8–3.5 cm; flores non vidi.

Lianas; branchlets set with recurved prickles to ca. 2 mm long; stipules lacking. Leaf rachis 20 cm long, with recurved prickles at the base of the pinnae and on the rachis between the pinnae; pinnae in 3 pairs; leaflets opposite, in 2 pairs, petiolule 3–4 mm; blade coriaceous, wrinkled, 6.0–9.0 × 2.5–3.0 cm, ovate-lanceolate, aequilateral, base slightly rounded or sometimes widely cuneate, apex obtusely acuminate, margin incurved abaxially, upper blade surface shining,

lower surface dull. Flowers not seen; receptacle remnant ca. 3 mm wide; pod dehiscent, oblong to elliptic, slightly asymmetric, 5.0–7.0 × 2.8–3.5 cm, base widely cuneate, apex obtuse, slanting with a ca. 2 mm long beak.

Venation brochidodromous pinnate. Primary vein stout (3.0%), straight. Secondary veins 15 to 20 pairs; angle of divergence 75°–85°; brochidodromous; looping arches irregular in shape; enclosed by tertiary and quaternary vein arches; intersecondary veins common, simple or sometimes composite. Tertiary reticulation. Quaternary veins anastomosing to form imperfect areoles. Marginal ultimate veins looped. FEVs (free-ending ultimate veins) 1-branched or rarely unbranched. (Figure 2A, B).

Phenology. Fruiting specimens collected in October.

Distribution. Known only from Xishuangbanna, Yunnan, China.

Caesalpinia yunnanensis resembles *C. crista*, and they are distinguished easily from the other species of the genus by the following characters: coriaceous leaflets, lacking stipule, armed branchlets and armed leaf rachis, unarmed and wingless pods. *Caesalpinia yunnanensis* and *C. crista* can be distinguished easily by the shape and surface of the fruits and by the leaf venation characters (Table 1).

Paratypes. CHINA. **Yunnan:** Xishuangbanna, *Y. H. Li (Li Yan-Hui) 5349* (KUN); Manting, 610 m, *Z. N. Chen (Chen Zi-Niu) 66* (IBSC).

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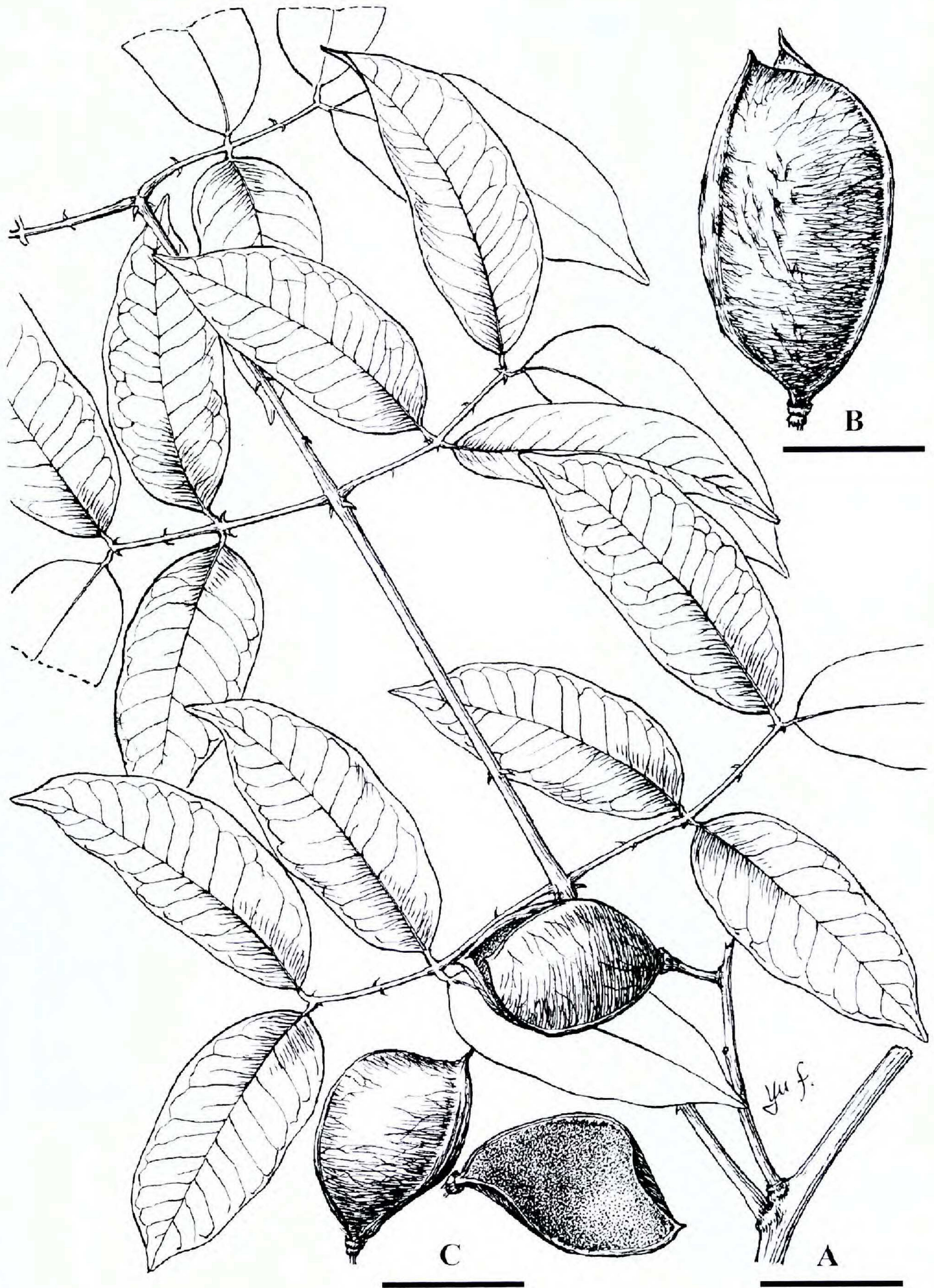


Figure 1. *Caesalpinia yunnanensis*. —A. Branchlet with mature fruits. —B. A large fruit. —C. Coccus of the fruit. Scale bars = 37.5 mm. A, C drawn from *T. P. Zhu 139* (KUN); B drawn from *Y. H. Li 5349* (KUN).

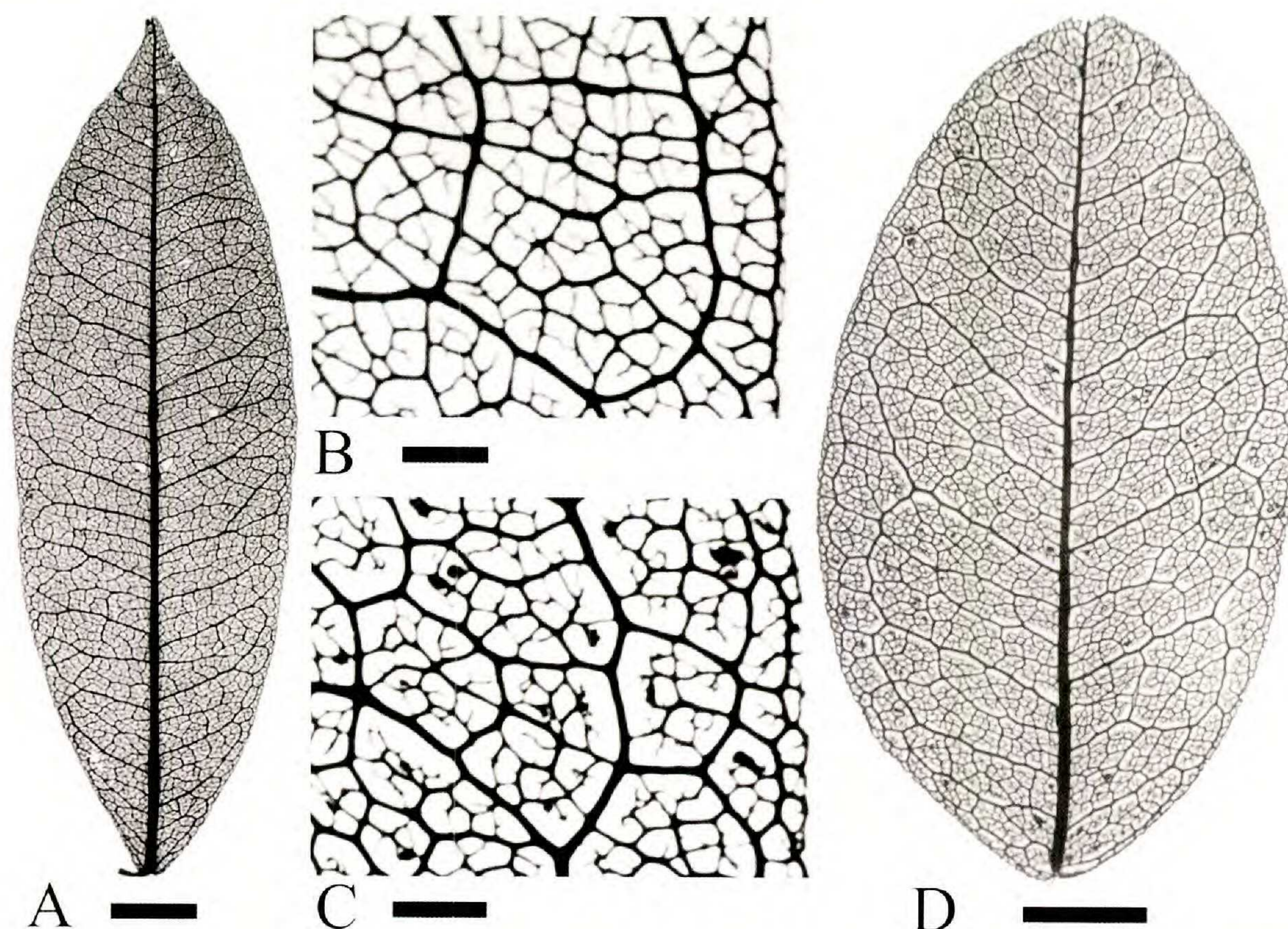


Figure 2. A, B. Leaf venation of *Caesalpinia yunnanensis* (based on *T. P. Zhu 139*, KUN). —A. Whole leaflet showing its venation, scale bar = 10 mm. —B. Marginal veins, scale bar = 1 mm. C, D. Leaf venation of *C. crista* (based on *C. L. Tso 21485*, IBSC). —C. Marginal veins, scale bar = 1 mm. —D. Whole leaflet showing its venation, scale bar = 10 mm.

Table 1. Comparison of *Caesalpinia yunnanensis* and *C. crista*.

Species	Pod	Leaf blade	Leaf venation*
<i>C. yunnanensis</i>	dehiscent; slightly asymmetrical; without a wing; surface wrinkled; venation not prominent	wrinkled, ovate-lanceolate, 6.0–9.0 × 2.5–3.0 cm	primary vein stout, size** = 3.0%; secondary veins 15 to 20 pairs, angle of divergence 75°–85°
<i>C. crista</i> ***	indehiscent; strongly asymmetrical or subsymmetrical; with narrow wing ca. 0.4 mm wide; surface with prominent venation	flat, ovate, or elliptic, 2.0–10.0 × 1.0–5.0 cm	primary vein moderately thick, size = 1.8%; secondary veins 7 to 12 pairs, angle of divergence 65°–75°. (Fig. 2C, D)

* Voucher specimens: *Caesalpinia yunnanensis* from the type (KUN), and *C. crista* from *C. L. Tso 21485* (IBSC).

** Size = venation width to leaf blade width (Dilcher, 1974).

*** Floristic description from Hattink (1974), Chen (1988), and Hou et al. (1996).

illustration. We are also indebted to KUN for loan of the specimens.

Literature Cited

- Chen, T. 1988. Leguminosae, Caesalpinioideae. *In: Flora Reipublicae Popularis Sinicae*, Tomus 39. Science Press, Beijing.
- Dilcher, D. L. 1974. Approaches to the identification of angiosperm leaf remains. *Bot. Rev.* 40: 1–157.
- Hattink, T. T. 1974. A revision of Malesian *Caesalpinia*, including *Mezoneuron* (Leguminosae–Caesalpinaceae). *Reinwardtia* 9: 1–69.
- Hou, D., K. Larsen & S. S. Larsen. 1996. Caesalpinaceae. Pp. 535–555 *in: C. Kalkman, D. Hou, K. Larsen, S. S. Larsen, J. E. Laferriere & B. E. E. Duyfjes* (editors), *Flora Malesiana, Series I, Vol. 12, Part 2*. Rijksherbarium, Leiden.
- Lewis, G. P. 1998. *Caesalpinia*: A revision of the *Poincianella*–*Erythrostemon* group. Royal Botanic Gardens, Kew.
- Li, S. J., D. X. Zhang & Z. Y. Chen. 2001. A species of *Caesalpinia* L. (Leguminosae) new to China. *Guihaia* 21: 165.
- Vidal, J. E., K. Larsen & S. S. Larsen. 1980. Leguminosae: Caesalpinioideae. *In: Flore du Cambodge, du Laos, et du Viêt-Nam*, Vol. 18. Museum National d'Histoire Naturelle, Paris.